

Our ref: PCS/138673
Your ref: 14/01773/APP

Darren Westmacott
Committee Services Officer
Clerk to the Moray Local Review Body
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If telephoning ask for:
Clare Pritchett

27 February 2015

By email only to: Darren.westmacott@moray.gov.uk

Dear Mr Westmacott

**Town and Country Planning (Scheme of Delegation and Local Review Procedure)
(Scotland) Regulations 2008
Town and Country Planning (Scotland) Acts
Planning application: 14/01773/APP
Erection of a house
Site South East Of Orchard House, Spey Street, Garmouth, Moray**

Thank you for your emailed letter of 16 February 2015 advising us of the above Notice of Review and providing us with the opportunity to provide further observations.

We have reviewed the grounds for review and associated documents available on The Moray Council's website and provide our further comments below on the application and the applicant's grounds for seeking a review of the Planning Authority's decision.

The additional information does not change our advice on the proposal and we continue to **object in principle** to this planning application on the grounds that it may place buildings and persons at flood risk and it is contrary to Scottish Planning Policy (SPP) and Planning Advice Note (PAN) 69. Please note the advice provided below and please do not hesitate to contact us if you require further explanation of our position.

Advice for the local review body

1. SEPA review of Flood Risk Assessment

- 1.1 We have reviewed the information provided in the Flood Risk Assessment. Unfortunately no new information has been provided which enables us to alter our position regarding the planning application and we **maintain our objection** to the proposed development on the grounds that it may place buildings and persons at flood risk and it is contrary to SPP and PAN 69.



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- 1.2 To assist the Local Review Body and the applicant we have carried out a detailed review of the information provided. For the avoidance of any doubt we wish to clarify that addressing some of the specific comments we make below regarding the information provided will not enable us to review our overall position.
- 1.3 The Flood Risk Assessment submitted has been compiled by the applicant. While the applicant clearly has a good local knowledge of the site and the report draws together observations, anecdotal information, other available information and opinion it is unfortunately not a technically robust assessment and does not reflect the guidance provided by us in our *Technical Flood Risk Guidance for Stakeholders* which outlines the appropriate methods and approaches to carrying out Flood Risk Assessments in Scotland.
- 1.4 More detailed comments on the Flood Risk Assessment are provided below by section:

Section 1.0

- 1.4.1 The flood map is designed to be used as a strategic tool to identify flood risk at the community scale. It is not designed to identify the level of risk to individual properties or development sites and as such is not designed to be examined at a large scale. When viewed at the maximum scale for which they are designed (1:25,000 with a 1:50,000 OS Map background) the development site in question cannot be accurately identified though it appears that the location of the site is within the flood map extent albeit close to the edge. If the flood map is examined at a closer scale than it is designed to be, then 80% of the site appears to be at risk of flooding with only around 60 m² shown to be available in the corner of the site where the house would be situated (the other areas of the site which appear to be not at risk are spread thinly along the fence line on the western boundary of the site). However, the Flood Map is not designed to be used in this way. It is an extremely useful tool we use to inform our decisions regarding whether flood risk for a particular planning application site requires more detailed investigation, particularly in locations where there is a lack of information from any other sources. We use the SEPA Flood Map alongside all other information we hold and not independently as a 'designation' of flood risk. In the case of this site, we also hold photographs of the site inundated by flood waters, we hold historical accounts of the area having been flooded, records of surrounding properties having been flooded, gauged river levels and flow at stations on the River Spey upstream of the site, tide gauge data for Buckie which is relevant along the nearby coastline, and topographical information on the site. In this case, on the basis of the information on the SEPA Flood Map alongside all of the other information we hold, we are of the view that the site is at risk of flooding and if the site is to be considered for development, then a more detailed and site specific assessment of flood risk is required (a FRA) for the site.
- 1.4.2 Appendix 3: This is entitled 'SEPA functional flood plain' and shows an extract of the SEPA Indicative River & Coastal Flood Map (Scotland). Our Map is not licensed for commercial use, and as outlined above it is not appropriate for display at the scale shown on the drawing. In January 2014 SEPA published new Flood Maps which supersede the Indicative River & Coastal Flood Map (Scotland). The new maps are based on more advanced modelling techniques and in many areas, including Garmouth, are based on better underlying topographic data. The new SEPA Flood Maps show most of the site to be at risk of flooding, and this may partly account for the assertions in section 1 of the FRA if it is based in the out-of-date flood map.
- 1.4.3 Unfortunately the last paragraph of section 1 is not an accurate representation of the risk of flooding at the site, or what was agreed with us during the site visit. The medium risk probability is a range which extends from 1 in 10 year (10% AP) up to 1 in 200 year

(0.5% AP) (the high being up to 10 year and the low being from 1 in 200 year up to 1 in 1000 year (0.1% AP)). We hold pictures of the site inundated on more than one occasion in the past 5 years, so by definition some parts of the site are most certainly at 'high' risk (they flood more frequently than every 10 years on average). We also appreciate that some parts of the site are at lower risk than those parts which flood most frequently. No technical assessment of flood risk has been carried out for the site which quantifies the probability of flooding across the site in more detail.

Section 2

- 1.4.4 Paragraph 263 of SPP is referred to, but the phrase quoted relates to land which is in the Low to Medium risk category, not as in this case where development is proposed in the Medium to High category. 'Medium' on its own is not a category in relation to SPP. Medium to High Risk is the section of this paragraph against which the suitability of the site for development should be assessed and it reinforces our view that the site is not suitable.
- 1.4.5 In relation to the paragraph in the assessment which refers to para 264 of SPP we note that a design flood level has not been established (as there has been no detailed FRA undertaken). As such, neither the extent nor the depth of flood water has been quantified for the site. The SEPA Flood Map cannot be used to establish the extent of flood water expected to affect an individual site of this scale. The depths of flood water also cannot be determined (though is stated as 350 mm, there is no technical assessment to support that figure). A flow rate has been stated of '2m/sec'. This figure is a velocity, not a flow rate which would be given in cubic metres per second (m³s or cumecs).
- 1.4.6 It is stated that inundation of the site extends to 'approximately 1 hour either side of high tide' during a flood event on the river. We can confirm that flooding at the site is not highly influenced by tide levels and the previous occurrences of flooding at the site have related only to high flows in the River Spey (and some associated surface water flooding), and not to high tides. The site in question is around 1 metre higher than the estimated 1 in 200 year sea level at the mouth of the river. If an extreme tide coincided with a large flood on the river, some influence would be exerted on flood levels by the tide, but the influence would be minor compared with the flooding expected from the river alone.

Section 3 Historical Flooding

- 1.4.7 We note the observations regarding the Grampian Regional Council report of 1995 which shows flow paths from the 1993 flood event and estimates a flow of 0.6 m³s at the village hall during the same event. We draw the applicant's attention to the same report where it is estimated that the 1993 flood event had a return period of 4 years (an exceedance probability of 25% in any one year). This is an event of considerably less magnitude than that which only has an annual probability of 0.5% in any year (the 1 in 200 year event). We also appreciate that the site is not located within the main channel of the River Spey and accept that it is located towards the edge of the flood plain. The whole flood plain of the River Spey at this location could be up to a mile wide and so by definition, the 1 in 200 year flow will not all flow across one particular point of the flood plain. The greatest proportion of the flow is likely to be conveyed within and around the main river channel, with the rest being spread across the flood plain and being influenced by a number of mechanisms including localised topography and man made structures. With larger flood events (which are more rare), the proportion of flood plain flow is likely to be higher because the main channel is already at capacity and is being overtopped.

- 1.4.8 The flow at the village hall has also been misinterpreted in the FRA; 0.6 m³s refers to the capacity of the small footbridge at the village hall which crosses the Black Burn, a watercourse which drains a very small catchment area, but during high flows on the River Spey acts as a flow path for flood plain flow from the main river.
- 1.4.9 For information, the SEPA gauging station on the River Spey at Boat o' Brig (8 miles upstream of the application site) has been recording river level data for over 60 years. The 1993 flood had a peak flow of 619 m³s. The 1 in 200 year return period flood would have an estimated peak flow of nearly twice that, at over 1200 m³s.
- 1.4.10 As you travel from the main channel of a river towards the edge of a floodplain during a flood event, water tends to reduce in velocity due to the shallower depths and gradients that tend to be found at these locations and the increase in vegetation density. The areas towards the edge of the flood plain however are still active, though often with less energy. It is not correct to describe these areas as being affected by seepage – seepage relates to areas which are disconnected from the active areas of flood plain, such as by a flood bank or higher ground, but where water seeps through the ground or embankment to flood an area with standing water. The application site is directly connected to the wider River Spey flood plain, although it is located towards the edge of the floodplain where velocities and depths would be expected to be lower depending on the topography of the land and the surrounding ground.
- 1.4.11 Energy of flood waters, transferred to velocity and other erosive forces, can change at a particular location over time. Each time a flood occurs (of any scale) changes can result to the river channel, the banks, the floodplain and the sediment budget. These can all have an impact on the behaviour of the flood waters in future events. A great deal of erosion has been occurring to the western river bank of the River Spey (the bank closest to the application site) and it appears that properties in Garmouth are being flooded more frequently, and during smaller floods, than occurred in the past. Large areas of woodland and agricultural land have been eroded in the past 10 years in the vicinity of Ross House, just upstream of the railway viaduct. The main channel of the River Spey at this location has continually changed course over the years and is geomorphologically very active. This behaviour means that the future flood risk from the River is more uncertain right across the river's flood plain. For that reason, the areas at risk of erosion will change over time as features which once offered protection are removed, or the river changes direction. It is likely that the areas at risk of erosion will have varied over time, but will also very depending on the scale of the event which is experienced or has recently been experienced and therefore the 1990 SAC map of topsoil erosion is not suitable evidence that the site will not be at risk of these factors during a 1 in 200 year flood event. Assuming that the 1990 Erosion Map was compiled after the February 1990 flood event, it is worth noting that the said flood event was a similar size to the 1993 event (1 in 4 year), and was the largest event to have occurred on the Spey in 10 years. In the 24 years since 1990, nine further flood events have occurred which are larger than that. These events being larger could have greater capacity for erosion but further, with less time lapsing between large events, areas already affected by erosion have less time to stabilise and recover and so may be more vulnerable to future events occurring in short succession.
- 1.4.12 The observation at the end of section 3 that the historic observed flood level from 1829 would have flooded the site to 1.5 m does not appear to accord with the further statement that the depth of flood water would not swamp the grass or overtop wellingtons.

Section 4

- 1.4.13 Much of the information in this section has already been covered and we reiterate that the flow during a 1 in 200 year design event could be twice the flow of the 1993 event referred to. The flow characteristics of the Black Burn referred to relate to its channel and bridge capacity rather than the flow that would be expected to flow across that area during an extreme event. The point regarding an increase in frequency in flooding and erosion reinforces the concerns that we have with development proceeding in this area. We highlight again that a 1 in 200 year design flood level has not been established for the site, but were the lower of the two observed levels from 1829 (4.9 mAOD) to be adopted, this would still result in flood depths at the proposed house of up to 0.5 m, not 0.35 m as stated. We have already noted the flooding of the site relates to fluvial flows from the River Spey and not from the tide, although we appreciate that the high tide could exacerbate flooding in the lower reaches of the Spey to some degree.

Section 5

- 1.4.14 SEPA has not identified the functional flood plain at the development site level and no evidence has been presented to support the idea that a sufficient area of the site is located outwith the floodplain to enable the development of a new property. We make no comment on the engineering suitability or integrity of the proposals and are not qualified to make such an assessment. We remain of the view however that such measures should not be used to introduce a new property to an area where the probability of flooding indicates that new development should not be permitted. The first principle of sustainable flood management is to avoid areas at risk in the first instance and utilising structures such as stilts or floating buildings does not serve to avoid those areas. We again highlight that due to no detailed flood risk assessment having been carried out for the site, expected flood velocities and depths across the site up to the 1 in 200 year design flood event are not known so it is not clear how any engineer can assess the suitability of the proposals.
- 1.4.15 We have not made a detailed assessment of the proposed swales, partly due to insufficient information being provided and due to their unsuitability to off-set any loss of flood plain capacity. We believe that the volumes being quoted for 'additional storage' are misleading however. The swales are to be dug down into the ground which is already low-lying and part of the flood plain. We expect that these areas will already be waterlogged during a flood event and so the additional storage they are expected to provide would not be realised.

Section 7

- 1.4.16 We dispute the assertion that the site has been assessed against the 1 in 200 year flood plus climate change. We also disagree that the footprint of the house is not within the functional flood plain. Regarding the figures quoted for the 1993 flood for flows and velocities expected to occur around the site, we refer to our comments above and reiterate that that event resulted in little over half the flow we could expect during a 1 in 200 year design event, and in any case some of those figures have been misinterpreted. Designing the buildings to withstand that event would be wholly inadequate, even if the principle of development of the site were agreeable.
- 1.4.17 Our overall view remains that, in an area which is already vulnerable to flooding, with many properties and residents already at risk and being subjected to the misery of flooding, and those events becoming more and more frequent and damaging, it would be

extremely inadvisable to permit the development of any additional properties within the flood plain in this community.

2. SEPA review of Notice of Review – Statement

- 2.1 We dispute the statement "This missing connection is causing major anxiety for SEPA officials who can appreciate the benefits of amphibious structures but feel vulnerable if they step beyond the confirm zones of the prescribed embargos on flood plain development." We have been consistent in our view that the proposal is contrary to SPP and we have never indicated that there are benefits to an amphibious structure at this location. In addition, the lack of a flood management scheme has not provided a problem for us in forming a view on this planning application.

Reason for Refusal 1&2

- 2.2 As indicated in our comments on the Flood Risk Assessment above, we do not agree with the assertion that the site does not actually flood but there is potential for passive flood water seepage.
- 2.3 For your information, we are not aware of any discussions with Scottish Government for 'a route to approval available for innovative design solutions via an appropriate risk assessment'.
- 2.4 As outlined above, a Flood Risk Assessment to the required standards and guidance has not been provided to us. This means that satisfactory information on water depths, flows and erosion in support of the planning application has not been provided to us and therefore it is not clear to us how an engineer can assess the suitability of the proposals.

Reason for Refusal 4

- 2.5 As a technically robust Flood Risk Assessment has not been provided to our satisfaction we are not able to advise whether the proposed development will materially increase the risk of flooding elsewhere. However, we note at para 1.4.12 above that the proposed swales will not provide flood storage as indicated in the Review Statement.

If you have any queries relating to this letter, please contact me by telephone on 01224 266609 or e-mail at planning.aberdeen@sepa.org.uk

Yours sincerely

Clare Pritchett
Senior Planning Officer
Planning Service

Disclaimer

This advice is given without prejudice to any decision made on elements of the proposal regulated by us, as such a decision may take into account factors not considered at the planning stage. We prefer all the technical information required for any SEPA consents to be submitted at the same time as the planning application. However, we consider it to be at the applicant's commercial risk if any significant changes required during the regulatory stage necessitate a further planning application and/or neighbour notification or advertising. We have relied on the accuracy and completeness of the information supplied to us in providing the above advice and can take no responsibility for incorrect data or interpretation, or omissions, in such information. If we have not referred to a particular issue in our response, it should not be assumed that there is no impact associated with that issue. Further information on our consultation arrangements generally can be found in [How and when to consult SEPA](#), and on flood risk specifically in the [SEPA-Planning Authority Protocol](#).

Caveats

The SEPA Flood Maps have been produced following a consistent, nationally-applied methodology for catchment areas equal to or greater than 3km² using a Digital Terrain Model (DTM) to define river corridors and low-lying coastal land. The maps are indicative and designed to be used as a strategic tool to assess, flood risk at the community level and to support planning policy and flood risk management in Scotland. For further information please visit http://www.sepa.org.uk/flooding/flood_maps.aspx.